

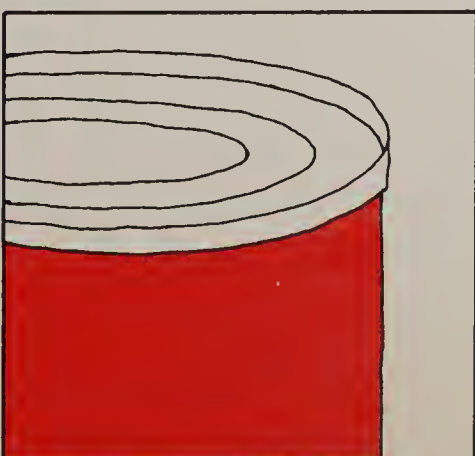
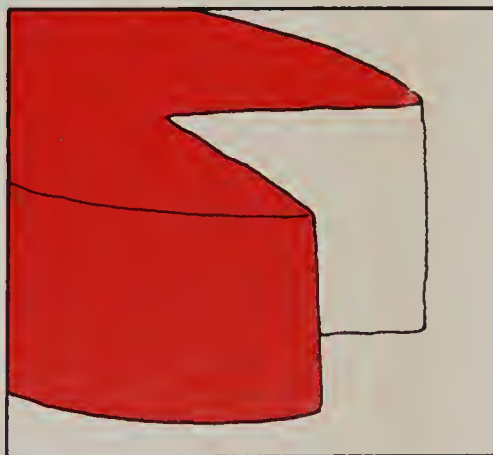
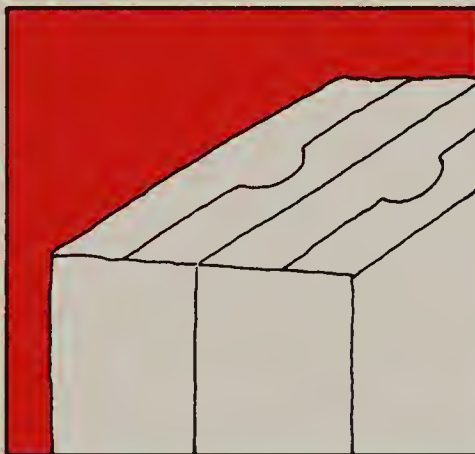
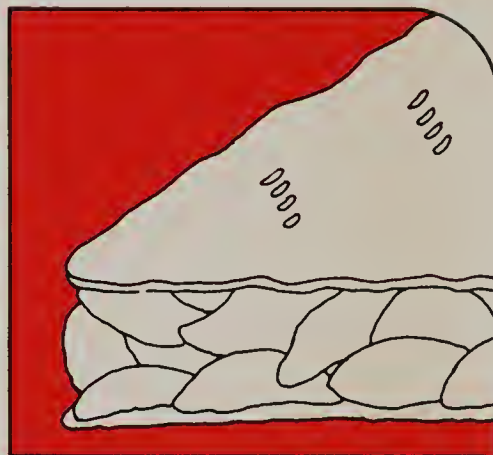
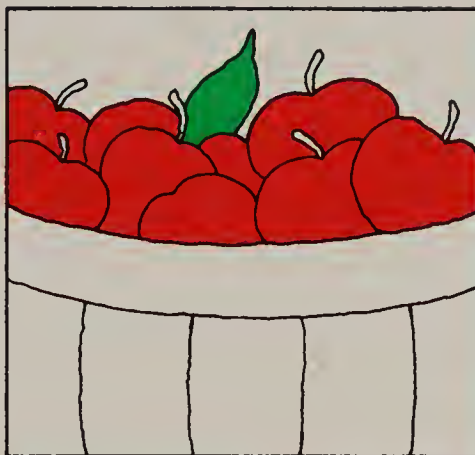
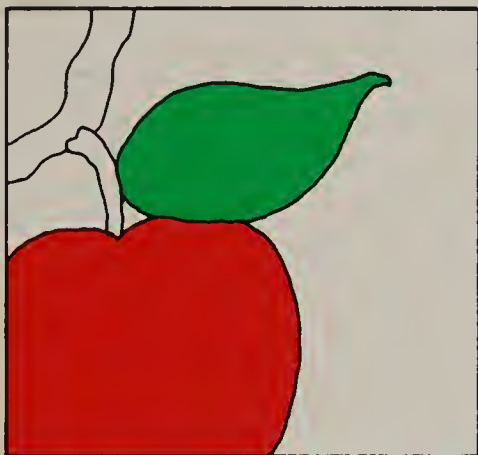
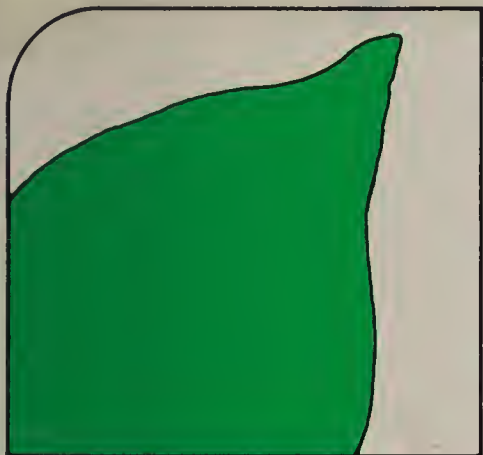
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From the earth to your table

An activity master program
about the economics of food

aHD1447
.F7



Introduction

Nearly everyone these days is concerned about the rising cost of living. A major concern has been the increasing cost of food. What we forget, however, when we're complaining about rising food costs, is that we have been in an economic boom, and costs always go up during an economic boom. Food prices have risen faster than wages in the past two or three years, but over a longer period, wages have climbed much faster than the price of food. Most American families spend less of their incomes for food today than they did twenty years ago.

Teenagers may have little awareness of the relationship between the cost of food at the farm and the cost of getting the food to them—between production and distribution costs and consumer prices. These units of student activities attempt to broaden students' awareness. The activity masters are designed as a simple introduction to the economics of agriculture, food processing, and food distribution. When students have finished the activities, they should have a better understanding of how their food gets to them, why it costs what it does, and how agriculture influences the American and the world economy.

The six activity master units are concerned with the following questions: 1. Who produces your food? 2. Who shares in the money you spend for food? 3. Why do food costs change? 4. How do production costs affect the cost of food? 5. How does processing affect the cost of food? 6. How does the retailer affect the cost of food? In addition, there are two transparencies. One shows the relationship between the farmer and the number of people he can feed. The other shows the relationship between agricultural and nonagricultural imports and exports, which shows the effect of U.S. agriculture on the American economy and the rest of the world.

This program can be used as a separate learning unit or it can be incorporated into several areas of study—economics, history, sociology, home economics, and math. For this reason, though suggestions are made for introducing and using each activity master unit, how you use it will depend on the class in which you are using it.

Many of the activities suggested in each unit are deductive and open ended, and are intended to lead to discussion rather than provide pat answers. (If specific answers are required for an activity, you will find them printed on the master copy of each activity master.) Some activities are practical, involving expeditions to the local grocery store or experiments in food processing. Most can be done individually, though some are improved by cooperative efforts. You may want everyone in the class to do all the activities, or you may want to let different students select certain kinds of activities. Again, your approach will depend on how you want to use this material.

The primary information students will need as they get involved in these activities is given to them on the activity masters, either in graphs, charts, or drawings or in brief explanatory paragraphs. Encyclopedias or almanacs will supply more information that can help students relate these units to the particular study they are making. You may also want to add to their store of resources by mailing the enclosed coupon.

Making activity master copies

The activity masters in this book will produce a minimum of 200 copies on a spirit duplicating machine. Non-reproducing answers are printed in red on the front of each master.

The activity masters in this book are printed on recycled paper.

Unit I: Who produces your food?

Objective:

To show how farm production has changed in the past 50 years.

Introduction:

Ask your students if they know how much food they eat in a day. You could have each of them make a list of the different foods they eat, estimate the amounts they might eat in a day, and try to figure out how much that would be in a year. According to statistical averages, Americans eat about 1,450 pounds of food a year. The average teenager eats a little more—about 1,804 pounds. (The average teenage boy eats about 1,917 pounds of food; the average teenage girl, about 1,690 pounds.) Briefly talk about where all this food comes from, who produces it, and how it gets to the consumer. Then use **Transparency 1: Production-distribution-consumption** to show about how many people one farm worker (includes farmer, members of his family, and his

hired help) provides food for. Students will see that one farm worker can provide food for all the members of the class, plus at least half of another class. You might then lead into the first unit by asking why there are fewer farmers than others, in the food production-distribution chain, and how it is possible for one farm worker to provide food for so many people.

Discussion:

The farmer's life and farm operations have changed drastically since early in this century. Until then, farming was primarily a subsistence operation—nearly one-fourth of the American population farmed. Farmers raised enough to feed themselves and their families with enough left over to feed the three-fourths who weren't farming. Now 5 percent of the population raises enough to feed the remaining 95 percent. Part of this is due to the change in land use. Even as late as 1940, only 42 percent of the farm was in the principal crop, corn. By 1970, corn took nearly

Provide additional sources of information by ordering the free material listed on the back of this space. Simply write the number of copies you want after each title (up to a total of 35 copies of all titles combined), fill in your name and address below, and mail to:

From the earth to your table

Office of Communication
U.S. Department of Agriculture
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Name _____

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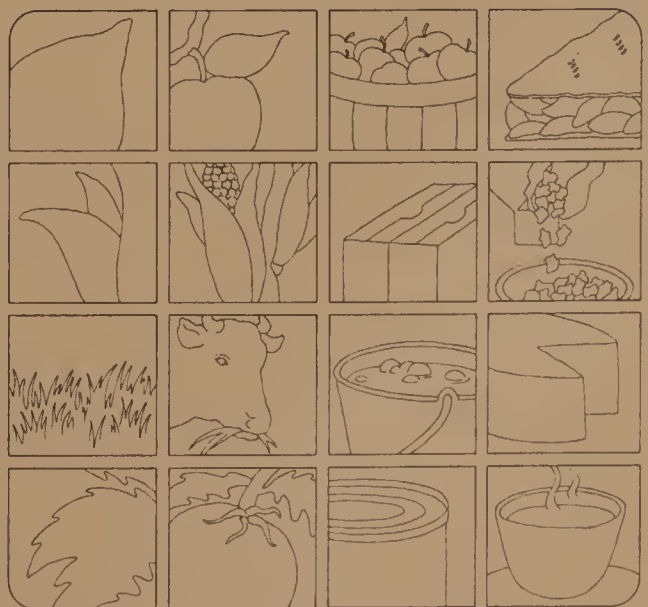
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From the earth to your table

An activity master program
about the economics of food



two-thirds of the farm acreage. Soybeans, a relative newcomer to the American farm scene, took about another third.

Another part of the change in farm production is due to modern technology. Up to 1930 or so, a man with a team of horses would cultivate little more than 8 acres of corn in a day. Today, with the help of a tractor costing \$8,000 or more and a 4-row cultivator that may have cost \$1,000, a farmer can cultivate 36 acres in a day. Before machines were common on farms, one man could pick by hand two acres or more of corn in a day, and an acre yielded only about 25 bushels. Today, with the help of a mechanical picker-sheller, a farmer can harvest 12 acres of corn in a day, averaging about 100 bushels an acre.

Livestock farmers also command an arsenal of equipment to help them produce our food supplies. A dairyman, for example, used to milk 10 to 15 cows at chore time. In those days, cows averaged about 4,400 pounds of milk a year. Today, one dairy worker can handle about 80 cows at a milking, with the help of elaborate milking parlors and bulk milk-handling systems. (A milking parlor may cost as much as \$25,000.) Cows today, because of feeding and long selection for high productivity, average 11,000 pounds of milk per year.

The farmer today has an enormous investment in land, buildings, and machinery. On a farm the size of the one described on the first activity master, the capital investment might have averaged as much as \$659,000 in 1974.

The cost of farming may cancel out the value of sales. If the farmer's time were figured at the average wage and the return on his investment figured at the average return in business, he would often show a net loss. He stays in business by taking less than the average wage and less than the average return on his investment.

Modern farms such as the one in the first activity make it possible for an average farm worker to produce enough to feed 55 people today. Just 10 years ago, he could have fed only 33 people.

Additional activities:

- (1) Relate this unit to social studies by discussing the changing life style of the farmer—from the farmer who works a few acres to the farmer who runs several hundred acres with the help, primarily, of his own family.
- (2) Invite a farmer into the class to talk about his views on farming.

| Pamphlet | Quantity |
|--|----------|
| <i>The Real Facts About Food</i> | _____ |
| <i>Agriculture U.S.A.</i> | _____ |
| Foreign Trade Series: | |
| <i>What Farm Exports Mean to You</i> | _____ |
| <i>What Makes U.S. Farm Trade Grow</i> | _____ |
| <i>What Our Farm Exports Mean to the World</i> | _____ |
| <i>How U.S. Farm Exports Have Grown</i> | _____ |
| <i>Who Buys Our Farm Products</i> | _____ |

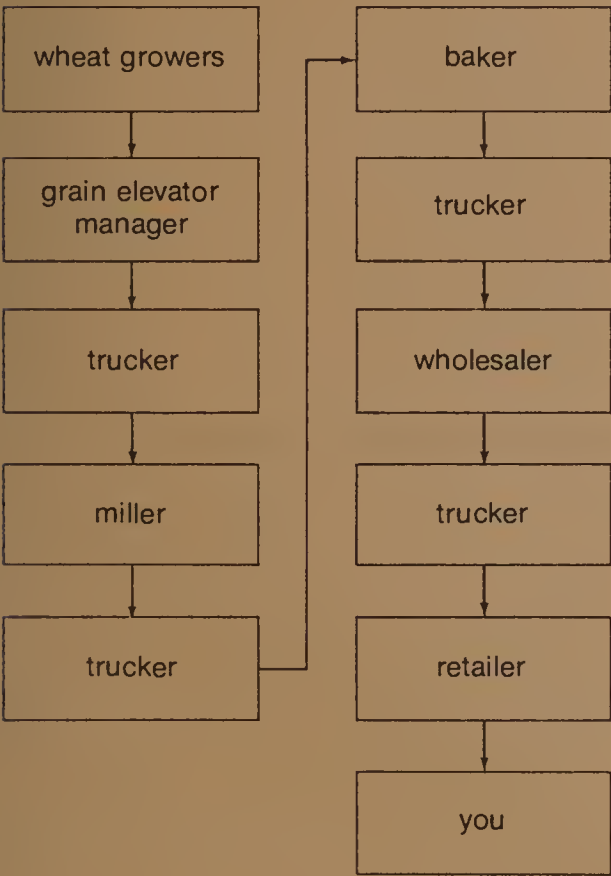
Unit 2: Who shares in the money you spend for food?

Objective:

To show that many separate, and necessary, services must be paid for by our food dollar.

Introduction:

Ask students when they last ate a hamburger. Do they have any idea how the meat got into that shape and who the people were who helped move the meat from the farmer to them? They can find out who some of the workers are by studying the production-processing-distribution flow chart on the activity master sheet. You may want to have students study the chart, then together you and they work out a flow chart on the chalkboard for another product before they go on to finish the activity. You might use a flow chart for bread as an example.



(This chart and those on the activity master are just some possible ways of working out the product flow. There may be other people involved and other possible steps in the flow.)

Discussion:

Because our society is so urbanized and because we want more different kinds of food, there are more and more people involved in getting the food to us. We depend on our very efficient system of marketing. About 9 million people are involved in processing and distribution, in addition to about 4.4 million farm workers (including farmers) and another 2 million people who provide services for farmers (like mechanics, crop-dusters, livestock auctioneers).

The number of people it takes to get food from the farm to the table varies according to the kind of food. Since most fresh foods require fewer processing steps, farmers usually get a larger percentage of the retail price of fresh food than they do for foods that are processed. The farmer's share of the retail cost of fresh meat, for example, may be as much as 64 percent, but his share of what the consumer pays for a box of dry cereal is only about 11 percent, because so much happens to the food between the grain and the cereal box.

Additional activities:

- (1) Students can make two more flow charts to show differences in the handling of fresh compared to canned tomatoes between California and New York. This would involve different kinds of transportation, the time factor, and storage.
- (2) Students can choose any food they like and make a flow chart from its point of production to their neighborhood grocery store or supermarket.

Unit 3: Why do food costs change?

Objective:

To show that food costs are related to the rest of the economy and go up or down as other costs change; to show ways of coping with changing costs.

Introduction:

Ask students if they have noticed changes in prices of goods they have bought in the past few years. Have these changes made any difference in their lives? Have there been changes at home because of price changes—especially in relation to food? You may want to assign this unit in two parts. For the first part, have the class discuss the information at the top of the activity master sheet before they go on their shopping expedition. For the second part, the class will need to be divided into groups and to select different stores in which each member of the group will shop.

Discussion:

Our economy is a free market economy. It is based on supply and demand. When the supply goes up and demand remains the same, prices drop. When the demand goes up and supply stays the same, prices go up. Costs are relative. Food costs have gone up in recent years, but so have other costs and so have wages. From studying the chart and graph, students will probably conclude that the buying power of an hour's pay has, in general, increased greatly. This is true even though prices have gone up recently and purchasing power has declined somewhat. The dotted line on the graph indicates the price of the foods.

Costs have risen as the economy has changed. The U.S. has become more prosperous through continuing use of advanced technology, and we have become more productive. All this means we have a higher level of living—we have more money to spend after we pay for basic food, clothing, and shelter—than most people in the world. We spend a smaller part of our disposable

income for food than people in most countries do. Americans spend about 17 percent of their disposable income for food. In the U.S.S.R., the figure is 53 percent; in Spain, it is 33 percent; in Ghana, 63 percent; and in Japan, 27 percent.

Even though Americans spend a smaller percentage of their disposable income for food, they want to get as much value for their money as they can. People can save money by buying the right product for a particular use. For example, fancy whole tomatoes aren't necessary for making tomato sauce. Buying store brands and shopping with a pocket adding machine (or at least adding up prices as you go along) and planning ahead will help keep you from overspending. Making up a shopping list at home from newspaper ads, then sticking to it, helps save at the supermarket too, as does comparison shopping and cutting unnecessary items from the grocery list.

Your students will probably enjoy hearing the 1925 and 1974 prices of the food items shown on the activity master:

| | 1925 | 1974 |
|-------------------|--------|--------|
| 1 lb. white bread | \$0.09 | \$0.35 |
| 1 lb. round steak | 0.36 | 1.80 |
| 1 dz. eggs | 0.55 | 0.78 |
| 1 qt. milk | 0.14 | 0.39 |
| 1 lb. cabbage | 0.05 | 0.16 |
| 1 lb. potatoes | 0.04 | 0.17 |
| 1 lb. dry beans | 0.10 | 0.69 |
| 1 lb. onions | 0.07 | 0.21 |
| 1 lb. sugar | 0.07 | 0.32 |
| Total | \$1.47 | \$4.87 |

Additional activities:

(1) Find out the average hourly wage for a factory worker, a store clerk, and a secretary in your town. Then, using local food prices, figure out how long each of these people would have to work today to buy the amount of food shown on the student activity sheet. (2) Make a list of all the things you would need to buy at the supermarket if you were doing your family's weekly shopping. Price all the items. How much did you spend for necessary food items? How much for non-food items? How much for snack foods? (3) Check your family's actual grocery receipts for a week. What percentage of the amount actually was spent on food? What percentage on non-food items? What percentage on snack foods?

Unit 4: How do production costs affect the cost of food?

Objective:

To show that farmers take great financial risks to produce food, often for little return.

Introduction:

As you hand out the two activity sheets in this unit, ask students to put themselves in the place of Roy Loomis, who owns a potato farm in Maine. He is a good farmer and knows how to make the best use of his land. Students will examine his crop records and think through his farming operations for one growing season to find out what some of his production expenses are.

Discussion:

Roy may not fully benefit from a higher market price for potatoes at harvest time if he contracts as much as three months before he plants to sell some of his potatoes for processing. He agrees to deliver a specific tonnage of potatoes, according to schedule, at a specific price. At harvest time the price may be higher than his contract price, but he still has to adhere to the contract. Of course, it is possible that prices will be lower at harvest time, so he could also benefit from having a contract.

Whether or not Roy has a good year depends on how his own crop yields are, as well as on how crop yields average across the nation. Even though it may seem as if Roy is making a lot of money on the crop in this example, you must consider his risks and costs as well as the fact that this is his entire income for the year.

The farmer risks a great deal even before he plants. He often has to borrow money to meet the expenses of producing the crop—wages for hired help, gas, oil, seed, and so on. He has to have a large investment in machinery. A 63-horsepower tractor alone costs about \$8,000, and he may have several. He also has trucks, plows, harvesters, and other machines. So he

maintains a big permanent investment largely on his faith that the return from his crops will support the investment as well as cover expenses and return a profit. After harvest, if he is not under contract and if prices for his crop are low, he may wait for a higher price. But this requires extensive storage facilities, and the hoped-for higher price may not materialize by the time he has to sell. Many farmers don't contract for the sale of their crops before they plant and therefore lack this ability to wait.

The farmer is often in no real position to bargain very effectively with the wholesaler or processor. The farmer's choice of places to sell his products is limited and he cannot substantially influence the price he gets. The market price for any farm product should, ideally, cover the farm costs of production and return some profit. Farmers are also affected by rising costs of the things they need to purchase to produce their crops. In effect, they sell products at wholesale but buy at retail. The farm market is limited, though it has been expanding because of increased population and more foreign trade for some products.

Additional activities:

(1) Roy Loomis borrowed all the money needed to cover his costs, except for the land charge and overhead. If the loan was for one year, what interest rate did he pay? (2) Find out how much white potatoes are selling for at your local supermarket. Using a farm price of \$3.50 per hundred weight, figure out what percentage of the retail price of potatoes goes to farmers like Roy Loomis. (3) Bring your local agriculture extension agent into the class to talk about farm prices and costs.

Unit 5: How does processing affect the cost of food?

Objective:

To show that food processing is a benefit to the consumer, though it may add to the cost of food.

Introduction:

As students suggest them, write on the chalkboard some of the kinds of processed cut beans that are available. (Supermarkets may carry as many as 22 different kinds, sizes, and brands of canned beans alone. And that doesn't begin to include the number of frozen beans and other processed forms.) For this unit, students will be going into the grocery store to compare prices. They could work individually, or you may want to have each choose a food classification. They may want to get together in groups of 4 or 6 at home to cook their version of each food, or you may want to do this in the classroom. If buying ingredients is a problem, the activity can be worked out without actually doing the cooking.

Discussion:

Occasionally, processed foods are less expensive than the same kind of fresh food. The retail price of frozen orange juice, for instance, is lower than that of the fresh product. This is due to efficiencies in producing the concentrate and the use of different varieties of oranges for juice. Also, prices for the same kind of food may range widely depending on the brand of the product. When the consumer makes the food at home he may not save on the cost of ingredients because he pays retail prices for them. The processor buys his ingredients at wholesale prices. Then, too, the consumer's overhead expenses (such as electricity or gas for cooking) go up when he prepares meals from unprocessed (fresh) products. The consumer's time has a value too. He may spend more in terms of the time to make the food at home than it costs to buy it prepared. He might be wiser to buy the processed food. Hav-

ing a general idea of what his alternatives cost will make it easier to make sensible decisions.

Additional activities:

(1) If possible, visit a processing plant—cheese factory, dairy, cannery, biscuit company, or any kind of processing plant in your town. Find out exactly what the food goes through from its raw state to its edible state. (2) Select one food, chicken, for example. Compare the prices of fresh, fresh frozen, whole, cut-up, canned, and frozen precooked chicken. How does processing affect the consumer cost?



Unit 6: How does the retailer affect the cost of food?

Objective:

To show the relationship of some of the costs of marketing—the retailer's costs—to the price of food.

Introduction:

Any student can play this simulation individually or with a partner. The game rules, which are printed on the second page of the unit, are written for two players. If opponents are chosen, each person uses his own activity sheet as his game board. The object of the game is to determine what percentage of profit a supermarket operator can take out of his gross receipts (before corporate taxes but after business taxes) and still keep his store operating and his stockholders happy.

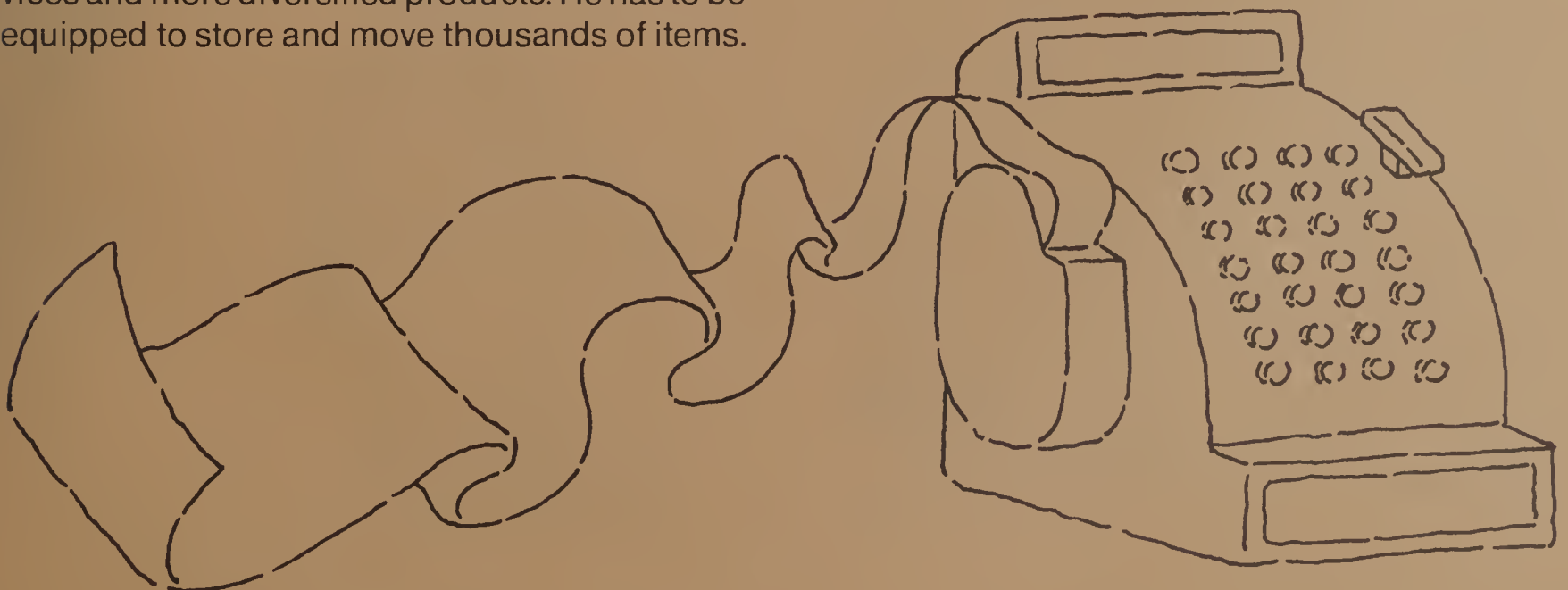
Discussion:

People who are part of the food-production and marketing chain hope to make a profit. They have to in order to stay in business. So they have to walk a tightrope between what they pay out and what they take in to try to keep a balance. The retailer, who also often acts as the wholesaler (storing goods, acting as broker), has many more kinds of costs than other members of the marketing system because he handles more services and more diversified products. He has to be equipped to store and move thousands of items.

The retailer's profit, as students will discover as they play the game, should be 1.1 percent of sales. This is the prevailing profit figure throughout the industry. It is also the percentage of the customer's dollar that goes to the store. The rest of the money the customer pays for food is divided up in the ways shown on the board, as well as others that are not shown. You may want to refresh students' memories by reviewing briefly some of the other steps in the production-distribution chain that have been discussed in earlier units.

Additional activities:

(1) Students can look at their local supermarket (or they can do this activity without going near the supermarket) and list the services the market provides that the retailer—and thus the customer—has to pay for. Some of these are stock loss (shrinkage) resulting from theft and spoilage, restocking (labor cost), check cashing service, heating and cooling costs (energy), trash removal, and maintaining a lighted parking lot. (2) Students can put themselves in the place of a retail market manager. A storm on the Gulf Coast wipes out a large part of the onion crop, causing the wholesaler to run out of onions. The bins are empty after the first few days. They are still empty the following week. What can be done, and how will it affect profits for the two-week period?



Transparency 2: U.S. imports and exports

The effect of U.S. agriculture on the American economy and in the world, 1964-1974

Objective:

To show that U.S. agriculture is vital to our economy and to the world.

Introduction:

After the transparency is projected so the whole class can see it, ask them to study the graph and draw conclusions about the relationship between agricultural exports and a balanced economy.

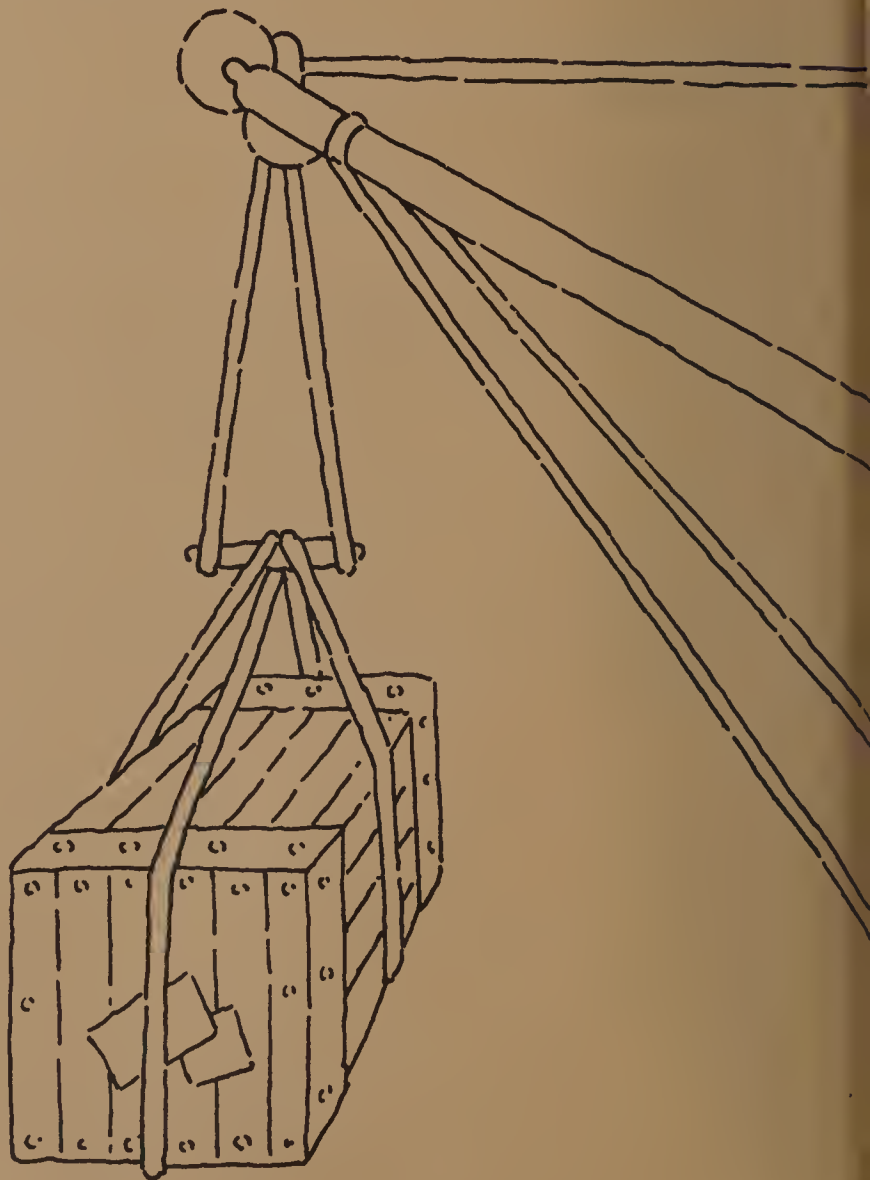
Discussion:

Students will probably notice immediately that bigger agricultural exports have increased the value of total U.S. exports so total exports largely offset total imports. In some years, total exports actually exceed the value of all imports. (Notice that total nonagricultural imports have substantially exceeded nonagricultural exports in each of the last three years.) More and more of our agricultural income is coming from exports. This pattern has developed partly because of bad growing conditions in other parts of the world in the early 1970s. The resulting poor crops meant many countries had to buy their agricultural supplies from the United States. Other nations have been in economic booms and have had increasing amounts of money to spend. Some which were receiving food aid from the U.S. are now paying cash for our products. Also, most of our farm production programs now make it possible to grow more crops so that larger supplies will be available for export. In order to develop a sound economy, any country needs to be able to produce something well. We produce food better than almost any other country. American agriculture is the most productive and efficient agricultural system in the world. We have larger

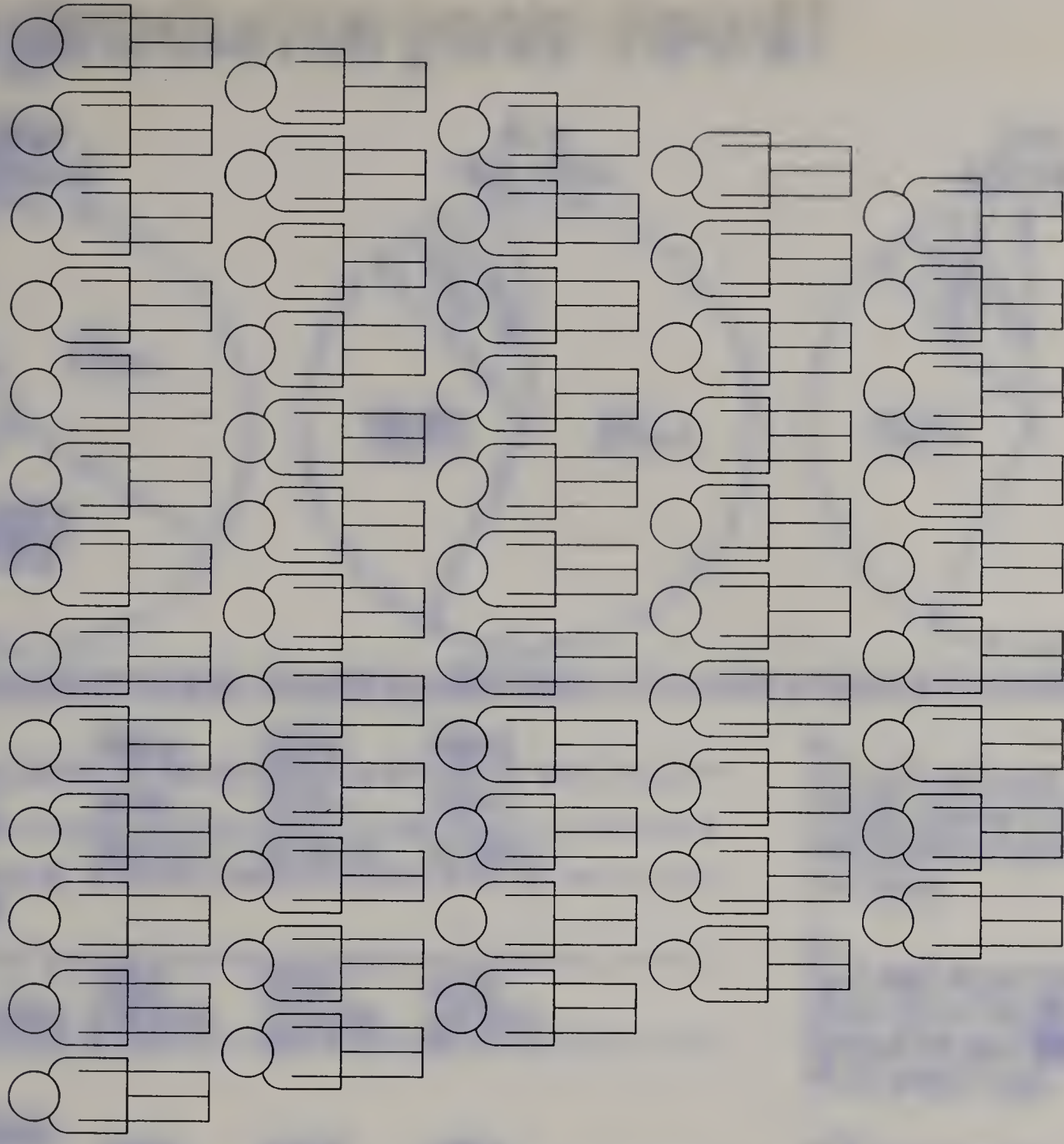
amounts of farm commodities for export and more different kinds of farm commodities to export. Agriculture is also the largest industry in our country. Agriculture and its related industries employ more than the combined transportation, steel, and automobile industries.

Additional activities:

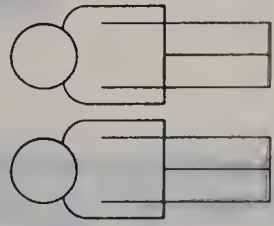
(1) Have students check the local supermarket shelves for imported foods. Compare the cost of the imported item with the cost of the same kind of domestic item, and decide why people might buy imported foods. (2) Have the state or county agricultural agent visit the class and talk about the benefits of exports to the farmer.



Production-distribution-consumption

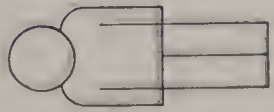


55 people



2 processors,
wholesalers,
retailers
or others

can feed



1 farm worker

+



Fig. 1. Stages of the formation of a planet from a nebula.

1. The nebula is a cloud of gas and dust in space. It is composed of hydrogen, helium, and various heavier elements.

2. The nebula begins to collapse under its own gravity. The central part becomes denser and hotter.

3. The central part becomes a protostar. The surrounding disk is the protoplanetary disk.

4. The protostar continues to grow and heat up. The disk also evolves.

5. The protostar becomes a main sequence star. The disk is now the protoplanetary disk.

6. The protoplanetary disk is the stage where planets form.

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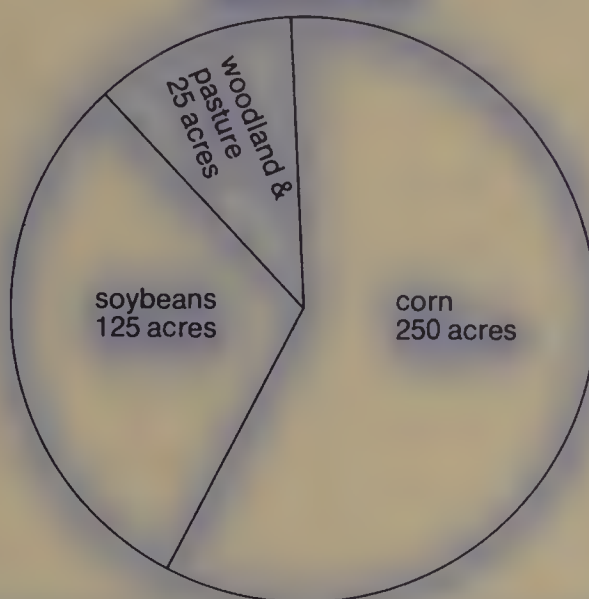
7. The planets form from the protoplanetary disk.

Who produces your food?

1940
240 acres



1970
400 acres



1974
400 acres



The above graphs show the production of a typical Midwestern farm at three stages of its development.

| Corn | 1940 | 1970 | 1974 |
|--------------------------------|-----------------|-----------------|-----------------|
| Yield per acre | 44 bu. | 79 bu. | 79 bu. |
| Market price | \$0.62 bu. | \$1.38 bu. | \$3.30 bu. |
| Gross receipts per acre | \$27.28 | \$109.02 | \$260.70 |
| Approximate man-hours of labor | 7 hrs. per acre | 4 hrs. per acre | 4 hrs. per acre |

| Corn production costs per acre | 1940 | 1970 | 1974 |
|---------------------------------------|----------------|-----------------|-----------------|
| Power & machinery services & interest | \$11.00 | \$14.15 | \$24.20 |
| Seed | 1.10 | 4.40 | 7.50 |
| Fertilizer & lime | 3.00 | 13.40 | 35.00 |
| Pesticides | — | 6.05 | 8.80 |
| Drying | — | 3.10 | 6.90 |
| Labor | 7.00 | 8.90 | 11.70 |
| Land investment interest | 5.00 | 47.60 | 88.00 |
| Real estate tax | 1.20 | 10.30 | 17.50 |
| Trucking & storage | 2.00 | 2.50 | 5.50 |
| Property tax, interest, investment | 1.90 | 4.05 | 7.20 |
| Total costs: | \$32.20 | \$114.45 | \$212.30 |

1. Using the price and yield figures at the left, figure out the gross receipts per acre for each farmer's corn crop.

2. Complete the production cost chart. Figure out the net income each farmer would receive from his total corn acreage.

1940 ~~-\$492.00~~

1970 ~~-\$1,357.50~~

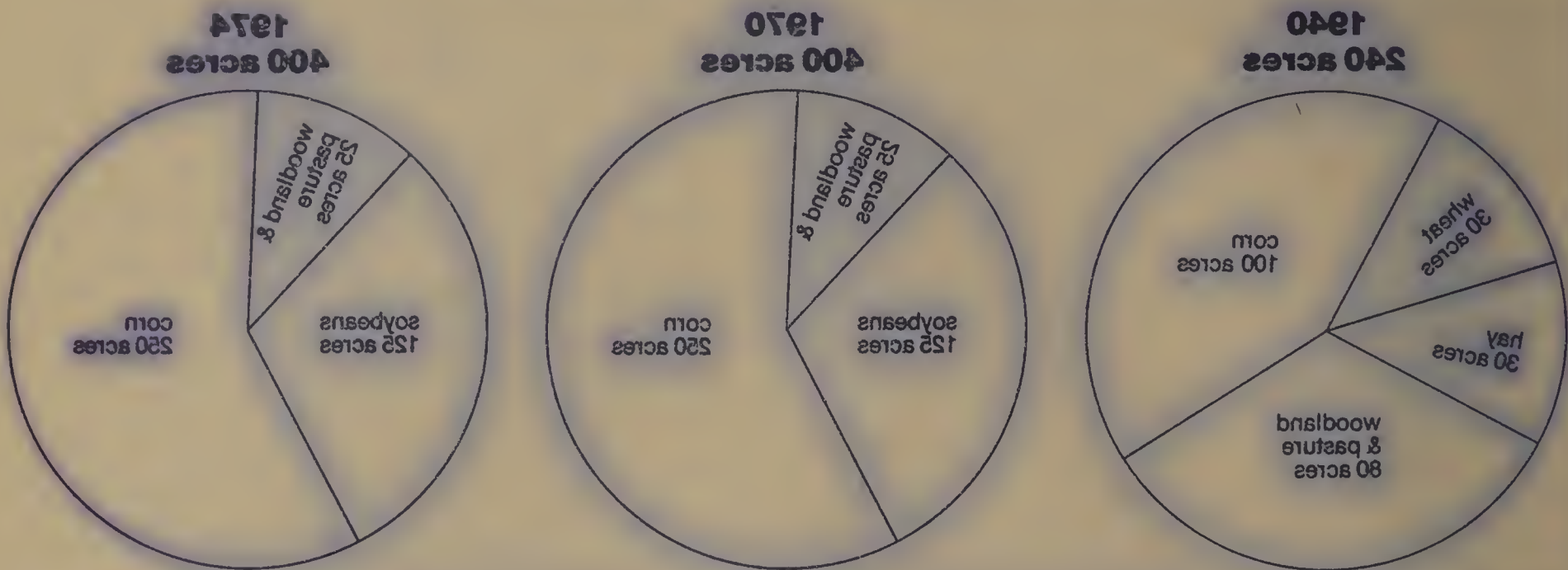
1974 ~~+\$12,100.00~~

3. What do you think accounts for the difference in net income in these years?

What do you think accounts for change in this farm from decade to decade?

What do you think might happen to it in the next 10 years?

Who produces your food?



The above graphs show the production of a typical Midwestern farm at three stages of its development.

| Corn | | 1940 | 1970 | 1974 |
|---|---------------------|------------|------------|------------|
| Gross receipts per acre | Yield per acre | 44 bu. | 79 bu. | 79 bu. |
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| Fertilizer & lime | | 3.00 | 13.40 | 35.00 |
| Pesticides | | — | 6.05 | 8.80 |
| Drying | | — | 3.10 | 6.90 |
| Labor | | 7.00 | 8.90 | 11.70 |
| Land investment interest | | 5.00 | 47.60 | 88.00 |
| Real estate tax | | 1.20 | 10.30 | 17.50 |
| Trucking & storage | | 2.00 | 2.50 | 2.50 |
| Property tax, interest, investment | | 1.90 | 4.05 | 7.20 |
| Total costs: | | | | |

1. Using the price and yield figures at the left, figure out the gross receipts per acre for each farmer's corn crop.

2. Complete the production cost chart. Figure out the net income each farmer would receive from his total corn acreage.

1940 _____
1970 _____
1974 _____

3. What do you think accounts for the difference in net income in these years?

What do you think accounts for change in this farm from decade to decade?

What do you think might happen to it in the next 10 years?

What a great idea! What might happen to it in the next 10 years?

Total costs.

THEORY OF THE EARTH AND ITS HISTORY

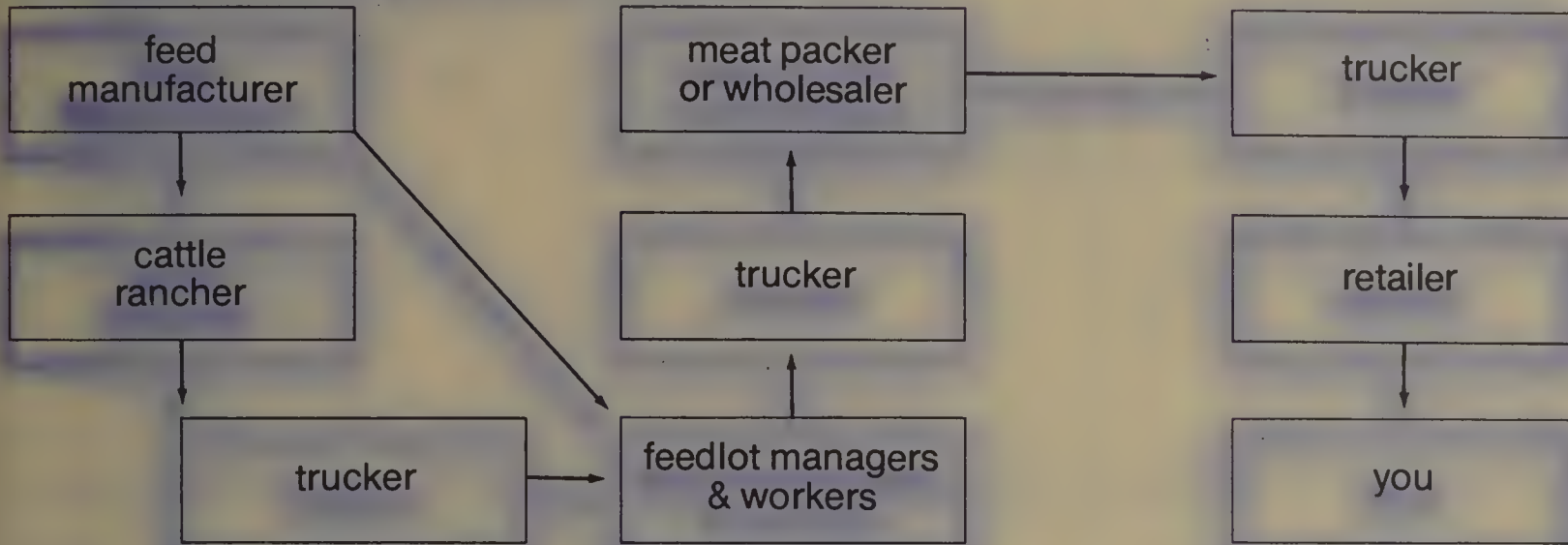


Diagram illustrating the Earth's internal structure and the process of plate tectonics.

| No. | Name of the Plate | Area (sq. miles) | Direction of Movement | Speed (inches per year) | Date of Discovery |
|-----|-------------------|------------------|-----------------------|-------------------------|-------------------|
| | | | | | |
| 1 | North American | 9,372,612 | Westward | 1.5 | 1912 |
| 2 | South American | 17,849,561 | Westward | 1.5 | 1912 |
| 3 | African | 11,734,371 | Northward | 1.5 | 1912 |
| 4 | European | 4,033,914 | Northward | 1.5 | 1912 |
| 5 | Asian | 29,400,123 | Eastward | 1.5 | 1912 |
| 6 | Australian | 9,527,925 | Northward | 1.5 | 1912 |
| 7 | Antarctic | 14,000,000 | Southward | 1.5 | 1912 |
| 8 | Indian | 7,000,000 | Eastward | 1.5 | 1912 |
| 9 | Pacific | 165,958,642 | Westward | 1.5 | 1912 |
| 10 | Atlantic | 106,631,998 | Westward | 1.5 | 1912 |
| 11 | Arctic | 5,101,000 | Northward | 1.5 | 1912 |
| 12 | Indian Ocean | 68,800,000 | Eastward | 1.5 | 1912 |
| 13 | South Atlantic | 17,000,000 | Westward | 1.5 | 1912 |
| 14 | Indian Ocean | 68,800,000 | Eastward | 1.5 | 1912 |
| 15 | Indian Ocean | 68,800,000 | Eastward | 1.5 | 1912 |
| 16 | Indian Ocean | 68,800,000 | Eastward | 1.5 | 1912 |
| 17 | Indian Ocean | 68,800,000 | Eastward | 1.5 | 1912 |
| 18 | Indian Ocean | 68,800,000 | Eastward | 1.5 | 1912 |
| 19 | Indian Ocean | 68,800,000 | Eastward | 1.5 | 1912 |
| 20 | Indian Ocean | 68,800,000 | Eastward | 1.5 | 1912 |

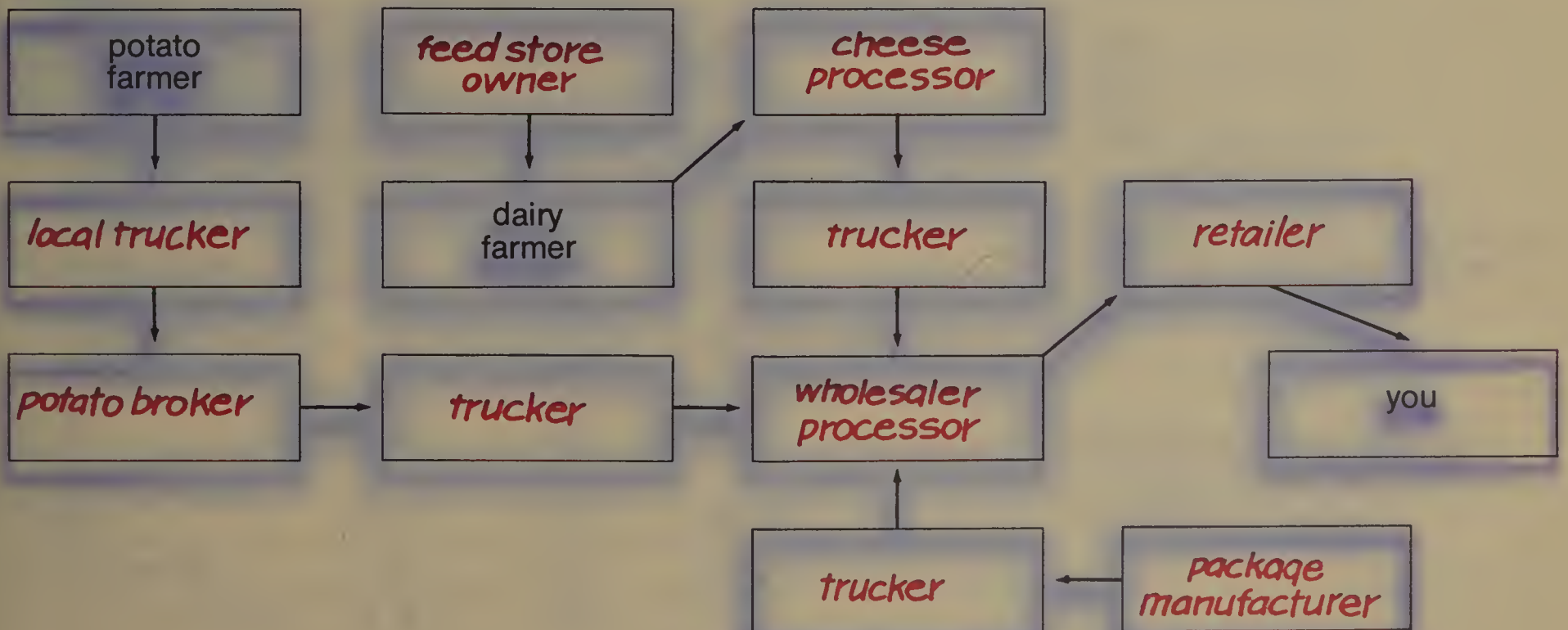
Who shares in the money you spend for food?

Who are some of the people who help get you the hamburger pattie that goes in your hamburger?



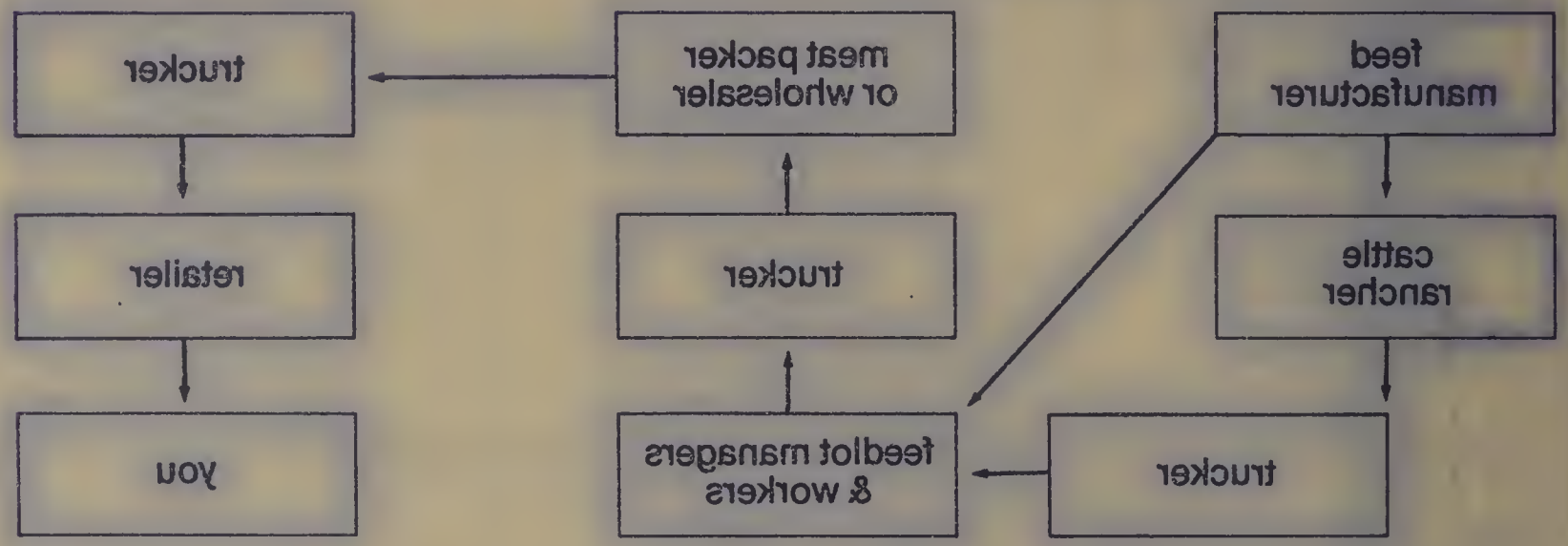
Who are some of the people who help get you a package of frozen potatoes au gratin? Fill in the blank spaces with the people listed below.

local trucker potato broker wholesaler/processor
 trucker feed store owner cheese processor
 trucker retailer package manufacturer
 trucker



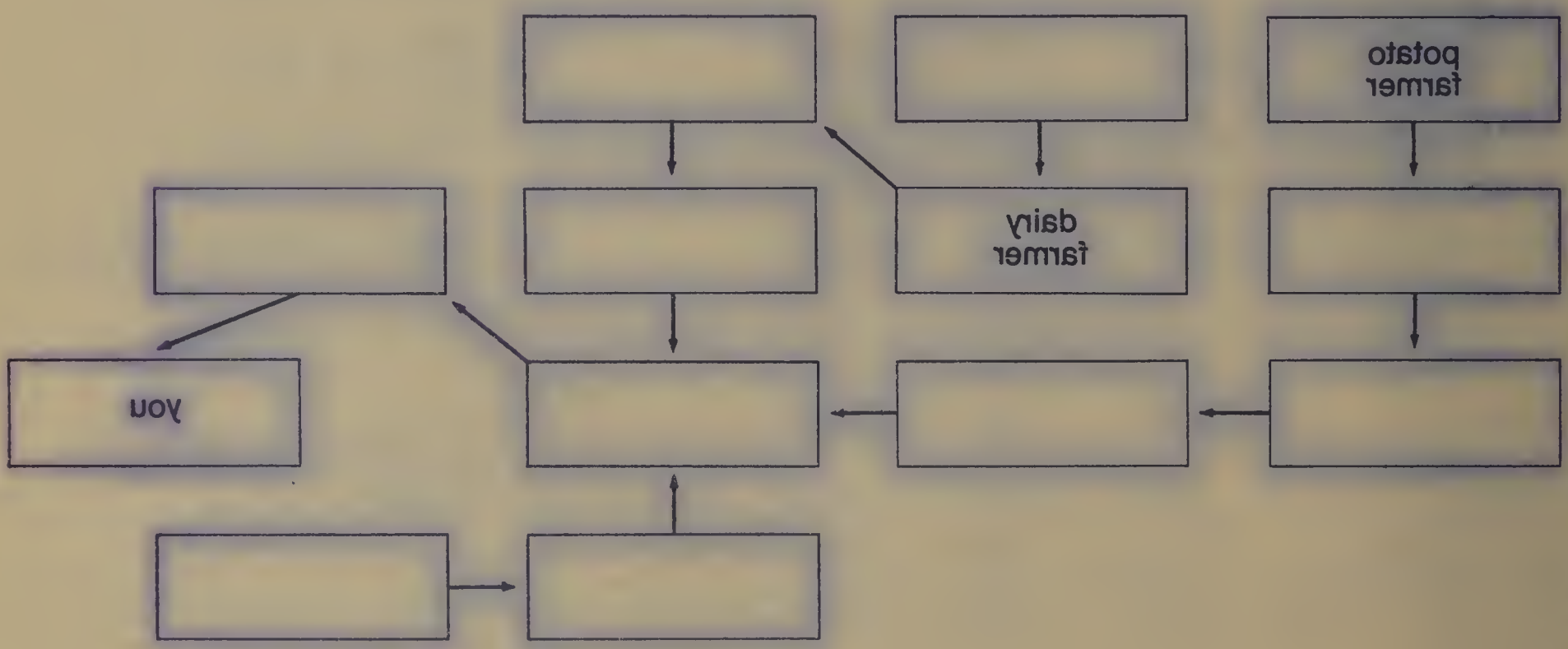
Who shares in the money you spend for food?

Who are some of the people who help get you the hamburger patty that goes in your hamburger?



Who are some of the people who help get you a package of frozen potatoes as gratin? Fill in the blank spaces with the people listed below.

- local trucker
- trucker
- trucker
- trucker
- potato broker
- feed store owner
- retailer
- package manufacturer
- cheese processor
- wholesaler/processor



Who shares in the money you spend for food?

Who shares in the money you spend for food?



Who shares in the money you spend for food?

Family: _____

Friends: _____

Alone: _____

Alcohol/Tobacco: _____

Money Spent on Food: _____



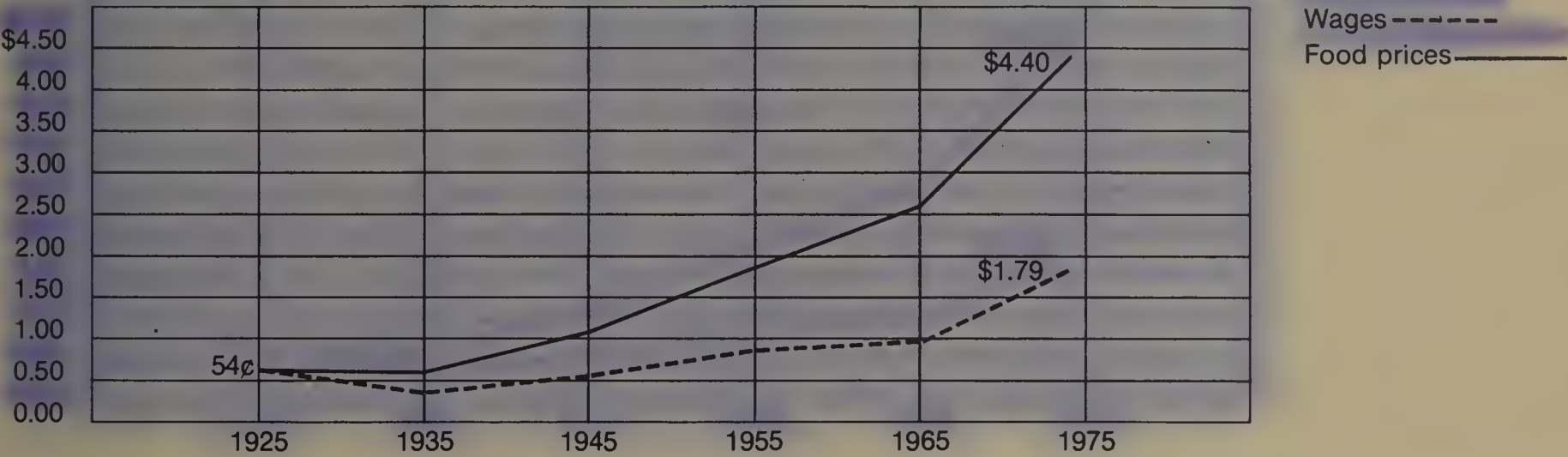
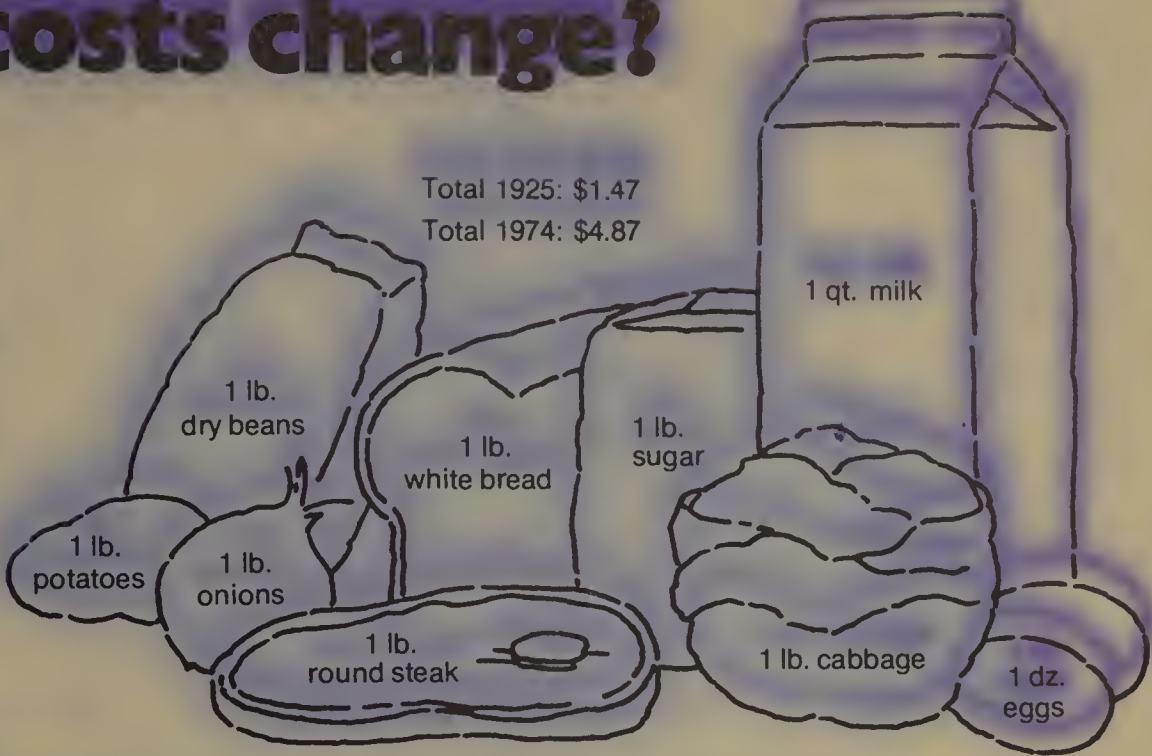
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Why do food costs change?

How long you had to work to buy the foods on the right if you were a manufacturing worker with an average wage:

| Year | Hours: minutes |
|------|----------------|
| 1925 | 2:43 |
| 1935 | 2:10 |
| 1945 | 1:34 |
| 1955 | 1:17 |
| 1965 | 1:01 |
| 1974 | 1:06 |



If a person had walked into a grocery store in 1925 with the wages from an hour's work in a manufacturing plant (54¢) in his pocket, he could have bought 37 percent of the quantity of food pictured above. By 1974, the same quantity (37 percent of the above list) would cost \$1.79 (plotted above). In 1974 an hour of factory work would buy more than 90 percent of the above quantities of food. Food prices rose 234 percent during the 50-year period, while average hourly wages rose 715 percent. (The food prices above represent the actual increases in food prices in the government consumer price index in the 50-year period.)

What relationship do you see between the table of hours worked and the wage and price graph?

What are some things that might have affected food costs from year to year?

Compare prices: Select different supermarkets or grocery stores for members of your group to shop in. Price each item in the drawing above and then make a table comparing the cost of the items at each store. Be sure to shop for the same brands in each store. Figure your costs on the basis of price per unit of each item.

Why do food costs change?

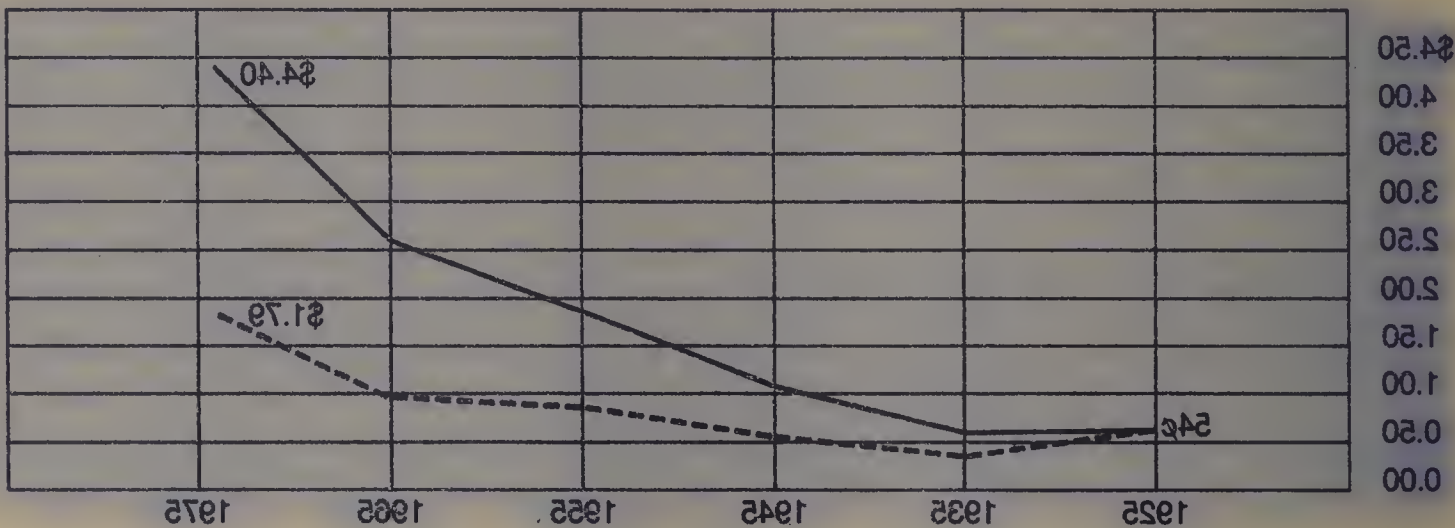


Total 1925: \$1.47
Total 1974: \$4.87

How long you had to work to buy the foods on the right if you were a manufacturing worker with an average wage:

| Year | Hours: minutes |
|------|----------------|
| 1924 | 1:06 |
| 1925 | 1:01 |
| 1926 | 1:17 |
| 1945 | 1:34 |
| 1935 | 2:10 |
| 1925 | 2:43 |

----- Wages
—— Food prices



food prices in the government consumer price index in the 50-year period.)
 food prices above represent the actual increases in
 quantities of food. Food prices rose 234 percent during the 50-year
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 If a person had walked into a grocery store in 1925 with the wages from an hour's work in a manufacturing plant

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Compare prices: Select different supermarkets or grocery stores for members of your group to shop in. Price each item in the drawing above and then make a table comparing the cost of the items at each store. Be sure to shop for the same brands in each store. Figure your costs on the basis of price per unit of each item.

Why do food costs change?



Only good deals! Don't miss out on the savings! Browse through our online store to shop in. Price each item in the online store and compare it to the price in the store. Be sure to shop for the same item in both stores. Please post your price comparison for each item.

How do production costs affect the cost of food?

| Loomis potato farm crop records | | 1973 | 1974 |
|---------------------------------|--|-------------|-------------|
| Potato acreage | | 100 | 100 |
| Yield per acre | | 260 cwt* | 260 cwt* |
| Average farm price | | \$ 2.40/cwt | \$ 3.50/cwt |
| Gross income per acre | | \$624.00 | \$910.00 |
| Costs per acre | | 1973 | 1974 |
| Labor | | \$ 30.61 | \$ 33.98 |
| Seed | | 205.48 | 300.00 |
| Fertilizer | | 40.93 | 74.50 |
| Herbicides | | 18.86 | 34.33 |
| Land charge** | | 23.15 | 25.00 |
| Interest on operating capital | | 27.01 | 39.58 |
| Tractor: fuel per acre | | 4.66 | 7.24 |
| Tractor: depreciation & repairs | | 20.05 | 61.07 |
| Overhead | | 20.45 | 28.78 |
| Total costs per acre | | \$421.17 | \$604.48 |
| Net income per acre | | \$202.83 | |

*cwt = hundredweight (100 lb.)

**Land charge includes interest on investment and taxes, based on value of \$250 per acre.

The figures above are based on Roy Loomis' getting an average of \$2.40 per cwt for his potatoes in 1973 and \$3.50 per cwt in 1974. In April 1974, Roy contracted to sell part of his crop to a processor. That was before his crop was in the ground. He could sell the rest of his crop on the open market, at the going market price, at harvest time. Or he could store his potatoes in hopes of getting a more favorable price later in the year. Potatoes sold for the fresh market may draw a better price, but they also may cost the farmer more in storage and handling costs. You can find out what Roy did on the next page.

How do production costs affect the cost of food?

| | | |
|----------------|-------|-------|
| Land | 1.00 | 1.00 |
| Food | 1.00 | 1.00 |
| Water | 1.00 | 1.00 |
| Energy | 1.00 | 1.00 |
| Transportation | 1.00 | 1.00 |
| Processing | 1.00 | 1.00 |
| Marketing | 1.00 | 1.00 |
| Government | 1.00 | 1.00 |
| Other | 1.00 | 1.00 |
| Total | 10.00 | 10.00 |

The following table shows the estimated production costs for various food products in 1974. The costs are shown in dollars per unit of production. The total cost for each product is shown in the last column. The costs are based on the following assumptions: 1. The costs are based on the 1974 prices. 2. The costs are based on the 1974 production levels. 3. The costs are based on the 1974 input levels. 4. The costs are based on the 1974 output levels. 5. The costs are based on the 1974 input-output ratios. 6. The costs are based on the 1974 output-input ratios. 7. The costs are based on the 1974 input-output ratios. 8. The costs are based on the 1974 output-input ratios. 9. The costs are based on the 1974 input-output ratios. 10. The costs are based on the 1974 output-input ratios.

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2001-2002 National Survey of the Health and Behavior of the U.S. Adult Population

| Age Group | Gender | Marital Status | Education | Income | Health Status | Behavioral Factors |
|-----------|--------|----------------|-------------|----------|---------------|--------------------|
| 18-24 | Male | Married | High School | \$10,000 | Good | Low |
| 25-34 | Female | Single | College | \$15,000 | Fair | Medium |
| 35-44 | Male | Married | High School | \$12,000 | Good | Low |
| 45-54 | Female | Married | College | \$18,000 | Fair | Medium |
| 55-64 | Male | Married | High School | \$14,000 | Good | Low |
| 65-74 | Female | Married | College | \$20,000 | Fair | Medium |
| 75-84 | Male | Married | High School | \$16,000 | Good | Low |
| 85+ | Female | Married | College | \$22,000 | Fair | Medium |

The following table shows the distribution of the population by age, gender, marital status, education, income, health status, and behavioral factors. The data is presented in a tabular format, with the first column representing the age group, the second column representing the gender, the third column representing the marital status, the fourth column representing the education level, the fifth column representing the income level, the sixth column representing the health status, and the seventh column representing the behavioral factors. The data is presented in a tabular format, with the first column representing the age group, the second column representing the gender, the third column representing the marital status, the fourth column representing the education level, the fifth column representing the income level, the sixth column representing the health status, and the seventh column representing the behavioral factors.

How do production costs affect the cost of food? (continued)

Contract

Acme Processing Company

April 17, 1974

The Acme Processing Co. agrees to purchase 1/4 of the 1974 Round White potato crop grown by Roy Loomis. Payment to be made at \$3.10 per cwt on delivery.

Bill of Sale

Acme Processing Company

August 15, 1974

Paid to Roy Loomis \$20,150

for Round White potatoes:

6500 cwt at \$3.10 per cwt

Use the information on the contract and information from the crop records to complete the bill of sale.

In August, the fresh market price to farmers for Round White potatoes is \$4.00 per cwt. Roy sells 1/5 of his crop in August. How much money does he get? \$20,800

What is the average price he will get for the rest of his potato crop? \$3.50

Add this information to the crop record and figure out Roy's net income per acre for 1974. Do you think he had a good year?

Choose one of the following hazards for Roy's 1973 crop and another hazard for his 1974 crop. Revise the 1973 and 1974 crop records to show how Roy's net income is affected.

Hazard: Rain washes out part of Roy's fields. About 12 acres cannot be harvested.

Hazard: Potato leafhoppers attack. Because of weather conditions, effective pesticide applications cannot be made. Eight percent of Roy's crop is lost.

Hazard: Gasoline prices go up 15¢ a gallon. Roy uses about 575 gallons in field work during the year.

Hazard: There is a fertilizer shortage. Roy's crop yield is cut by 1/8. But his fertilizer costs are cut by \$9.31 per acre.

How do production costs affect the cost of food? (continued)

Contract

Acme Processing Company
April 17, 1974

The Acme Processing Co. agrees to purchase 1/4 of the 1974 Round White potato crop grown by Roy Loomis. Payment to be made at \$3.10 per cwt on delivery.

Bill of Sale

Acme Processing Company
August 15, 1974

Paid to Roy Loomis _____
for Round White potatoes:
_____ cwt at \$3.10 per cwt

Use the information on the contract and information from the crop records to complete the bill of sale.

In August, the fresh market price to farmers for Round White potatoes is \$4.00 per cwt. Roy sells 1/5 of his crop in August. How much money does he get?

What is the average price he will get for the rest of his potato crop?

Add this information to the crop record and figure out Roy's net income per acre for 1974. Do you think he had a good year?

Choose one of the following hazards for Roy's 1973 crop and another hazard for his 1974 crop. Revise the 1973 and 1974 crop records to show how Roy's net income is affected.

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Hazard: There is a fertilizer shortage. Roy's crop yield is cut by 1/8. But his fertilizer costs are cut by \$9.31 per acre.

How do production costs affect the cost of food? (continued)

How does processing affect the cost of food?

In your local supermarket, check the prices of each processed item below (using the lowest price you can find as your basis for comparison). Then prepare the same food item yourself. Figure out your cost of preparation by multiplying the time it takes you to cook or mix the food by a wage of \$4.00 an hour. (Don't count the time the cake is in the oven or the chili cooks on the stove.) You may not be able to find each item in the same size can or package. Take that into account when you figure your costs.

| Chili with meat and beans (1 lb.) | Amount of ingredients used | Cost of ingredients | Preparation cost | Total cost | Number of servings | Cost per serving |
|---|----------------------------|---------------------|------------------|------------|--------------------|------------------|
| Canned | — | — | — | | | |
| Dry chili mix plus: ground beef, tomato sauce, beans | | | | | | |
| Homemade: ground beef, kidney beans, tomatoes, onions, spices | | | | | | |

| Chocolate cake (10-12 oz.) | Amount of ingredients used | Cost of ingredients | Preparation cost | Total cost | Number of servings | Cost per serving |
|---|----------------------------|---------------------|------------------|------------|--------------------|------------------|
| Frozen | — | — | — | | | |
| Cake mix plus: eggs | | | | | | |
| Homemade: cake flour, butter or margarine, milk, chocolate, eggs, sugar | | | | | | |

| Orange juice (1 qt.) | Amount of ingredients used | Cost of ingredients | Preparation cost | Total cost | Number of servings | Cost per serving |
|-----------------------------|----------------------------|---------------------|------------------|------------|--------------------|------------------|
| Frozen | — | — | — | | | |
| Bottled | — | — | — | | | |
| Squeezed fresh | | | | | | |

In each case, which would you rather buy—the processed or the fresh food?

How does processing affect the cost of food?

In your local supermarket, check the prices of each processed item below (using the lowest price you can find as your basis for comparison). Then prepare the same food item yourself. Figure out your cost of preparation by multiplying the time it takes you to cook or mix the food by a wage of \$4.00 an hour. (Don't count the time the cake is in the oven or the chili cooks on the stove.) You may not be able to find each item in the same size can or package. Take that into account when you figure your costs.

| Chili with meat and beans (1 lb.) | Amount of ingredients used | Cost of ingredients | Preparation cost | Total cost | Number of servings | Cost per serving |
|---|----------------------------|---------------------|------------------|------------|--------------------|------------------|
| Canned | — | — | — | | | |
| Dry chili mix plus: ground beef, tomato sauce, beans | | | | | | |
| Homemade: ground beef, kidney beans, tomatoes, onions, spices | | | | | | |

| Chocolate cake (10-12 oz.) | Amount of ingredients used | Cost of ingredients | Preparation cost | Total cost | Number of servings | Cost per serving |
|---|----------------------------|---------------------|------------------|------------|--------------------|------------------|
| Frozen | — | — | — | | | |
| Cake mix plus: eggs | | | | | | |
| Homemade: cake flour, butter or margarine, milk, chocolate, eggs, sugar | | | | | | |

| Orange juice (1 pt.) | Amount of ingredients used | Cost of ingredients | Preparation cost | Total cost | Number of servings | Cost per serving |
|----------------------|----------------------------|---------------------|------------------|------------|--------------------|------------------|
| Frozen | — | — | — | | | |
| Bottled | — | — | — | | | |
| Squeezed fresh | | | | | | |

In each case, which would you rather buy—the processed or the fresh food?

How does processing affect the cost of food?

In your notebook, write down the names of the foods you can find in the market. Then, write down the names of the processed foods you can find in the market. Write down the names of the processed foods you can find in the market. Write down the names of the processed foods you can find in the market.

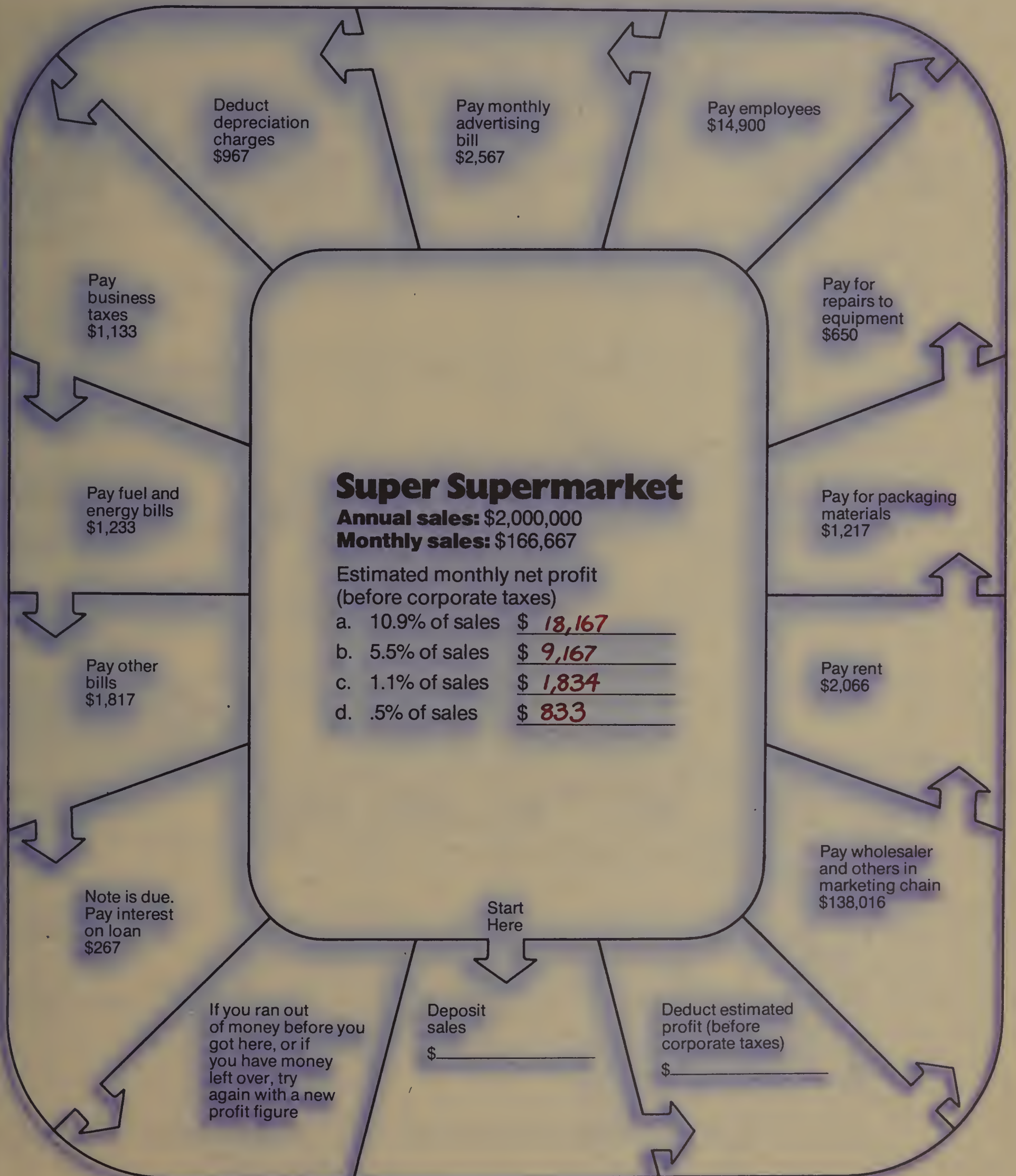
| Food | Processed | Cost per serving |
|--------------|-----------|------------------|
| Apple | | |
| Banana | | |
| Broccoli | | |
| Carrot | | |
| Cauliflower | | |
| Cheese | | |
| Corn | | |
| Cucumber | | |
| Egg | | |
| Garlic | | |
| Green bean | | |
| Lemon | | |
| Lime | | |
| Milk | | |
| Onion | | |
| Potato | | |
| Spinach | | |
| Strawberry | | |
| Sweet potato | | |
| Tomato | | |
| Yogurt | | |

| Food | Processed | Cost per serving |
|--------------|-----------|------------------|
| Apple | | |
| Banana | | |
| Broccoli | | |
| Carrot | | |
| Cauliflower | | |
| Cheese | | |
| Corn | | |
| Cucumber | | |
| Egg | | |
| Garlic | | |
| Green bean | | |
| Lemon | | |
| Lime | | |
| Milk | | |
| Onion | | |
| Potato | | |
| Spinach | | |
| Strawberry | | |
| Sweet potato | | |
| Tomato | | |
| Yogurt | | |

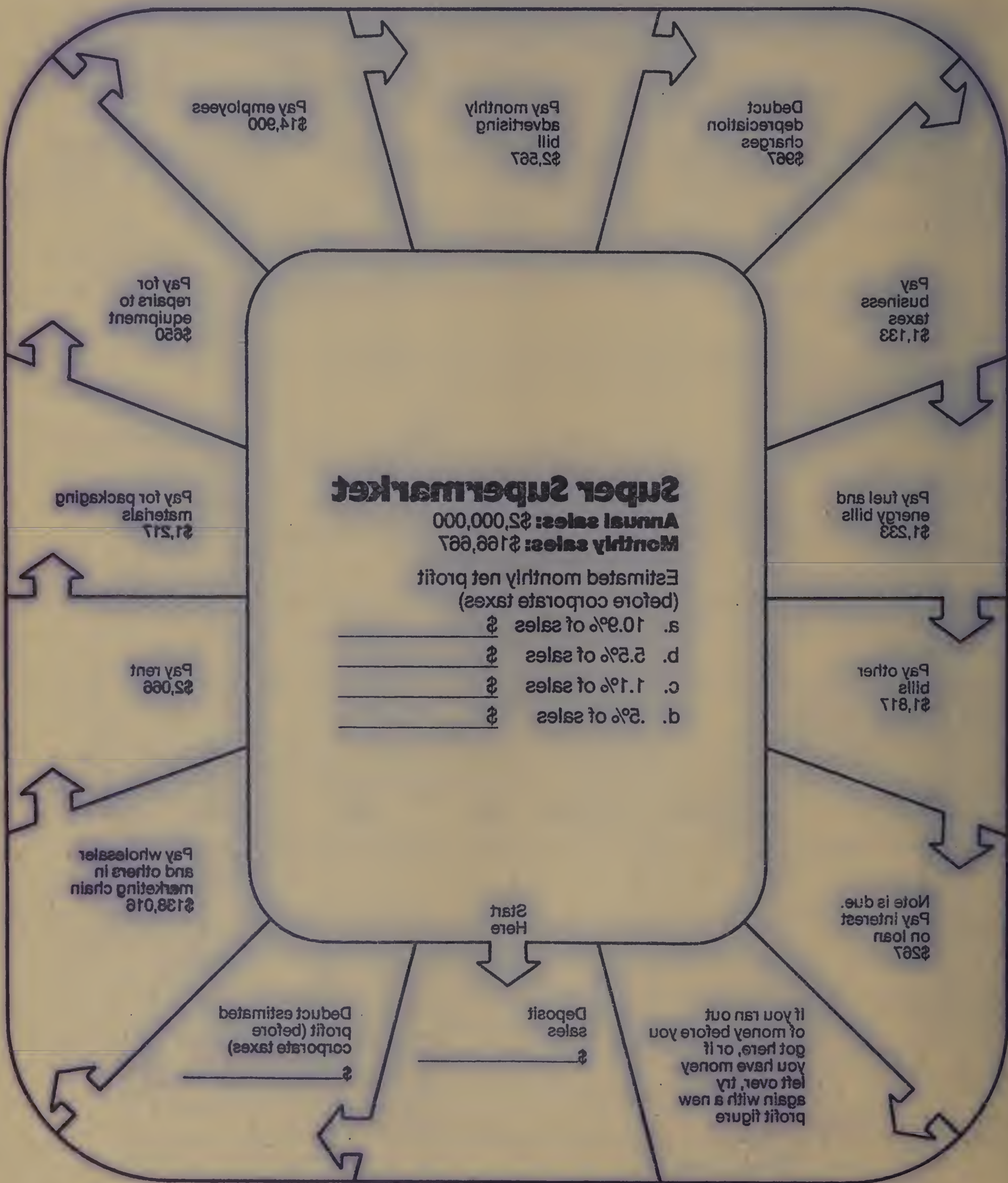
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|--------------|-----------|------------------|
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| Banana | | |
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| Cucumber | | |
| Egg | | |
| Garlic | | |
| Green bean | | |
| Lemon | | |
| Lime | | |
| Milk | | |
| Onion | | |
| Potato | | |
| Spinach | | |
| Strawberry | | |
| Sweet potato | | |
| Tomato | | |
| Yogurt | | |

In each case, which would you rather buy—the processed or the fresh food?

How does the retailer affect the cost of food?



How does the retailer affect the cost of food?



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How does the retailer affect the cost of food? (continued)

Playing the game

1. Each player chooses a monthly net profit percentage from the four possibilities in the center of the game board. Figure out the dollar amount of the profit percentage you choose and record it in the appropriate space in the center of the game board. (*Hint: If you take too big a profit you won't be able to cover your costs. Sooner or later you will go out of business. If you take too small a profit and keep too much of the earnings in the business, your stockholders will complain. Sooner or later you will be out of a job.*)
2. The player who has chosen the lowest profit percentage begins by moving to the DEPOSIT SALES square and entering his monthly sales total. The other player then does the same.
3. The players then move to the DEDUCT ESTIMATED PROFIT square, enter the profit they have chosen and deduct it from their total sales.
4. They continue in this way around the track, taking turns, and subtracting the amounts shown in each square as they go.
5. The first player to get around the track and break even after paying back the interest on his loan (in NOTE IS DUE square) is the winner. (*Note: If you run out of money before you reach the last square, you have not kept enough money to pay your bills; you have taken too big a profit. If you have money left over, you have taken too small a profit.*)
6. If you don't come out even at the last square, choose a different profit percentage and go around again.

After the game

1. What percentage of the consumer's grocery dollar goes to the retailer as profit? 1.1%
2. If 54% of the supermarket's profit is paid out as corporate taxes and 50% of the remainder after taxes is paid as dividends to stockholders, how much is left to expand and improve the business? \$422 per month
3. Using the figures on the game board, determine the percentage of sales the retailer pays for each of the following:

| | |
|-----------------------------|----------------------------|
| Salaries <u>8.9%</u> | Packaging <u>.73%</u> |
| Rent <u>1.2%</u> | Advertising <u>1.5%</u> |
| Fuel and energy <u>.74%</u> | Business taxes <u>.68%</u> |
4. If your employees receive a 2% cost of living increase in their wages, what will your new monthly payroll be? \$15,198

How can you meet that payroll?

How does the retailer affect the cost of food? (continued)

Playing the game

1. Each player chooses a monthly net profit percentage from the four possibilities in the center of the game board. Figure out the dollar amount of the profit percentage you choose and record it in the appropriate space in the center of the game board. (Hint: If you take too big a profit you won't be able to cover your costs. Sooner or later you will go out of business. If you take too small a profit and keep too much of the earnings in the business, your stockholders will complain. Sooner or later you will be out of a job.)
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5. The first player to get around the track and break even after paying back the interest on his loan (in NOTE is due square) is the winner. (Note: If you run out of money before you reach the last square, you have not kept enough money to pay your bills; you have taken too big a profit. If you have money left over, you have taken too small a profit.)
6. If you don't come out even at the last square, choose a different profit percentage and go around again.

After the game

1. What percentage of the consumer's grocery dollar goes to the retailer as profit? _____
2. If 54% of the supermarket's profit is paid out as corporate taxes and 50% of the remainder after taxes is paid as dividends to stockholders, how much is left to expand and improve the business? _____
3. Using the figures on the game board, determine the percentage of sales the retailer pays for each of the following:
Salaries _____
Rent _____
Fuel and energy _____
Advertising _____
Business taxes _____
Packaging _____
4. If your employees receive a 2% cost of living increase in their wages, what will your new monthly payroll be? _____

How can you meet that payroll?

How does the retailer affect the cost of feed? (continued)

Playing the game

1. Each player receives a copy of the game board and a copy of the rules. The center of the game board is divided into four quadrants. Each quadrant is divided into four sub-quadrants. Each sub-quadrant is divided into four squares. Each square is divided into four smaller squares. Each smaller square is divided into four even smaller squares. Sooner or later, one of the smaller squares will be the winner. The winner will be the one who has the most squares in the center of the game board.
2. The player who has the most squares in the center of the game board will be the winner. The winner will be the one who has the most squares in the center of the game board.
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10. The player who has the most squares in the center of the game board will be the winner. The winner will be the one who has the most squares in the center of the game board.

Answer the questions

1. What percentage of the total cost of the feed is the cost of the feed itself? _____
2. If you have a 100 lb bag of feed and you have a 10 lb bag of feed, what is the difference in cost after taxes? _____
3. What percentage of the total cost of the feed is the cost of the feed itself? _____
4. If you have a 100 lb bag of feed and you have a 10 lb bag of feed, what is the difference in cost after taxes? _____

How do you think the retailer affects the cost of feed?

How the World's Most Powerful Countries (Countdown) 2019

2019 World's Most Powerful Countries

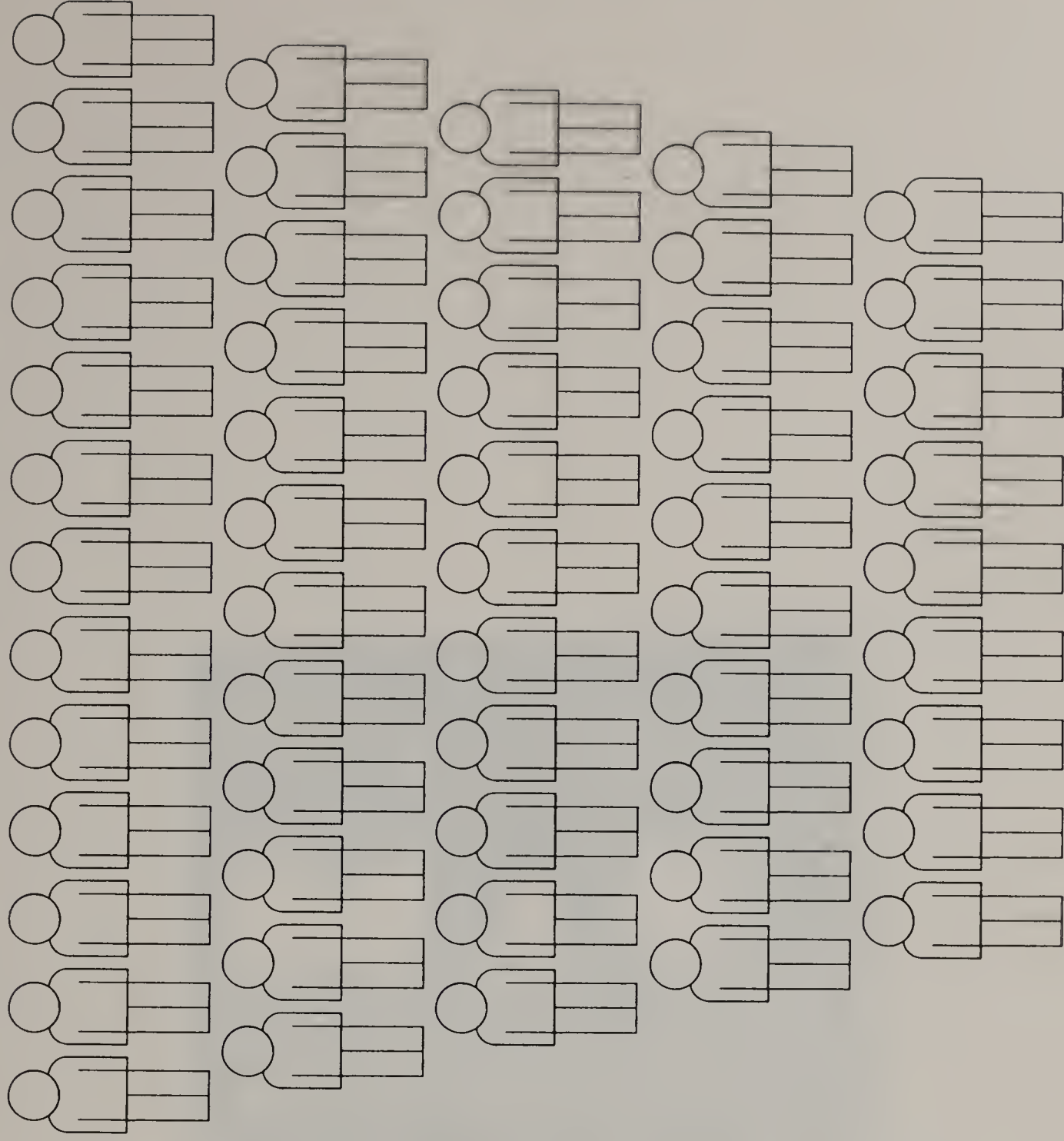
1. United States
2. China
3. Russia
4. India
5. Brazil
6. France
7. Germany
8. Japan
9. South Korea
10. Canada
11. United Kingdom
12. Italy
13. Spain
14. Netherlands
15. Sweden
16. Norway
17. Finland
18. Denmark
19. Belgium
20. Austria
21. Switzerland
22. Luxembourg
23. Ireland
24. Portugal
25. Greece
26. Turkey
27. Israel
28. Australia
29. New Zealand
30. Singapore
31. Hong Kong
32. Taiwan
33. South Africa
34. Egypt
35. Saudi Arabia
36. United Arab Emirates
37. Qatar
38. Kuwait
39. Oman
40. Bahrain
41. Brunei
42. Malaysia
43. Indonesia
44. Philippines
45. Vietnam
46. Laos
47. Cambodia
48. Myanmar
49. Thailand
50. Singapore

2019 World's Most Powerful Countries

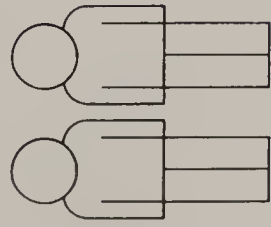
1. United States
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41. Brunei
42. Malaysia
43. Indonesia
44. Philippines
45. Vietnam
46. Laos
47. Cambodia
48. Myanmar
49. Thailand
50. Singapore

Source: Global Power Index 2019

Production-distribution-consumption



55 people



2 processors,
wholesalers,
retailers
or others

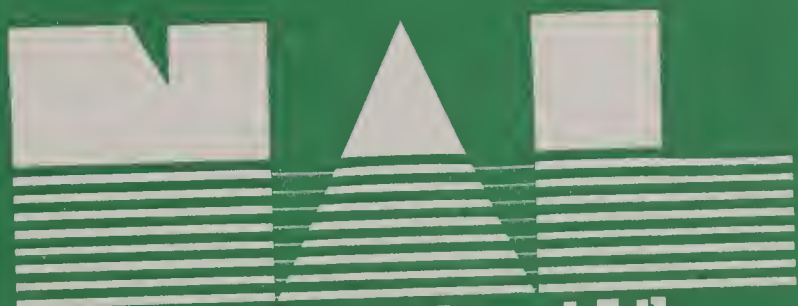


1 farm worker

+

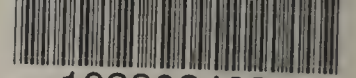
can feed

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Attention: Social Studies Department Head